REMARKS

Claims 1-124 are pending in the application.

Claims 11-12, 27, 42-43, 72-74, 77-81 and 116 have been amended.

Claim Objections

Applicants, as an initial matter, wish to kindly thank the Examiner for the thoroughness of his review of the application. In light of the informalities noted by the Examiner, claims 11-12, 27, 42-43, 72-74, 77-81 and 116 have been amended to address these informalities. Applicants respectfully submit that no new matter is added thereby.

Rejection of Claims under 35 U.S.C. §103

Claims 1-10, 15-41, 46-72, 77-103 and 108-124 stand rejected under 35 U.S.C. §103(a), as being unpatentable over Cohen et al, U.S. Patent No. 6,389,462 (Cohen) in view of Geagan, III et al, U.S. Patent No. 6,735,634 (Geagan).

Claims 11, 13, 42, 44, 73, 75, 104 and 106 stand rejected under 35 U.S.C. §103(a), as being unpatentable over Cohen, in view of Geagan, and in further view of Riddle, U.S. Patent No. 5,920,732 (Riddle).

Claims 12, 14, 43, 45, 74, 76, 105 and 107 stand rejected under 35 U.S.C. §103(a), as being unpatentable over Cohen, in view of Geagan, and in further view of Radko, U.S. Patent No. 5,687,392 (Radko).

While not conceding that the Examiner's cited references qualify as prior art, but instead to expedite prosecution, Applicants have chosen to respectfully disagree and traverse the

rejections as follows. Applicants reserve the right, for example, in a continuing application, to establish that one or more of the Examiner's cited references do not qualify as prior art as to an invention embodiment previously, currently, or subsequently claimed.

As an initial matter, Applicants respectfully submit that elements of independent claims 1, 32, 63 and 94 are not shown, taught or suggested by Cohen and Geagan, taken alone or in permissible combination with skill in the art at the time of invention. Claim 1, for example, reads as follows:

> 1. (Original) A method of managing network communication comprising:
> terminating a first transmission control protocol ("TCP") connection at a first network element, wherein said first TCP connection is between said first network element and a second network element, and said first TCP connection is intended to be terminated at a third network element;
> initiating a second TCP connection between said first network element and a third network element;
> establishing communications between said second and said third network elements via said first network element;
> determining need for data transfer between said second and said third network elements by monitoring a plurality of data buffers; and
> transferring said data between said second and said third network elements.

As can therefore be seen, the claimed invention is directed at the need for TCP proxies, for example, to effectively and optimally manage data buffers and control memory when transferring data between network elements. This is achieved, in part, by the claimed

determining need for data transfer between said second and said third network elements by monitoring a plurality of data buffers.

By contrast, Cohen is directed to a method and system for transparently redirecting an HTTP connection request that is directed to an origin server to a proxy cache, using a proxy redirector that translates the destination address of packets directed to the origin server to the address of the proxy. Thus, the focus of Cohen's technique is to cause the client to appear to be connected to an origin server, while in actuality, being connected to a proxy cache. (Cohen, col. 7, lines 11-35) Cohen is oblivious to the possibility that any buffering employed may cause inefficient communications as a result of a client failing to "pull" data from the proxy (regardless of where the proxy obtains the data).

Also by contrast, Geagan is directed to a method and system that, in the face of data loss on connections between a content source and a content consumer, opens additional connections therebetween. These additional connections are preferably opened between the content source and a proxy disposed between the content source and the content consumer. The proxy may then seam together data streams received from the content source across the additional connections in a recording on a computer-readable medium. The seamed stream may be constructed by filling in information gaps in any of the data streams received from the content source with content derived from others of the data streams received from the content source. This derivation may be made on the basis of identifying characteristics (e.g., packet contents) of packets from each of the data streams received from the content source. Again, Geagan, as with Cohen, fails to discern the possibility that inefficient communications may result from a client failing to "pull" data from the proxy.

As is noted in the Office Action, Cohen fails to show, teach or even suggest the claimed plurality of buffers (although Applicants note that, in fact, Cohen fails to show, teach or even suggest the claimed determining need for data transfer between the second and said third network elements by monitoring those buffers). It is posited in the Office Action that Geagan cures this infirmity, and that the motivation for combining these references is that:

> "It would have been obvious to one of skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Geagan, III et al because Geagan, et al's use of a proxy with transmit and receive buffers controlled by a memory controller in Cohen et al's method would provide a method to monitor buffers in a proxy to support multiple simultaneous TCP connections with clients requesting data."

This line of reasoning suffers from a number of infirmities. First, Geagan fails to cure the lack of certain claim elements from which Cohen suffers. Although not Cohen's only failing in this regard, Cohen failure to teach determining need for data transfer between the claimed second and third network elements by monitoring a plurality of data buffers, as noted above and in the Office Action is left unaddressed by the addition of Geagan. Unfortunately, the addition of Geagan fails to remedy this infirmity because, while Geagan may disclose a number of TCP connections that are used to provide more bandwidth to media streams, and may disclose that each of these streams is buffered, Geagan fails to disclose the use of a plurality of buffers that are monitored to determine the need for data transfer between a second and a third network element.

As noted, this is because Geagan, like Cohen, is oblivious to the possibility of the proxy becoming choked with data as a result of a client failing to "pull" that data from the proxy.

Even if Geagan did disclose the monitoring of multiple buffers in order to determine the need for data transfer between a second and a third network element (which Applicants maintain Geagan does not), Geagan further fails to disclose the claimed determining of such need. Geagan, as well as Cohen, fail in this regard, because these references remain unaware of the problem that the claimed invention addresses. The claimed invention, as noted, seeks to effectively and optimally manage data buffers and control memory when transferring data between network elements, and so to avoid the problem of the TCP proxy having to wait for a client application to "pull" data from a transmit buffer, thereby reducing the efficiency of the data communications being supported. It is this problem that the claimed determining addresses, and it is this problem to which the techniques disclosed in the references remain completely oblivious.

This being the case, Applicants are at a loss to see how one of skill in the art, at the time of invention, would have been motivated to combine these references. Cohen is simply directed to a method and system for transparently redirecting an HTTP connection request that is directed to an origin server to a proxy cache, using a proxy redirector that translates the destination address of packets directed to the origin server to the address of the proxy, as noted earlier. Geagan, by contrast, is directed to a method and system that, in the face of data loss on connections between a content source and a content consumer, opens additional connections therebetween. There is no recognition in Cohen of a need for additional bandwidth, because Cohen does not reach the issue of streaming data. Conversely, the proxy in Geagan is not concerned with the method of proxying, but of the need for additional bandwidth between the

proxy and the data source, and the assembling of that data for provision to the client. The methods of proxying in Geagan are completely sufficient for Geagan's purposes. The references therefore fail to recognize any need for the other's benefits, whatever they may be, and so fail to provide one of skill the art the requisite motivation to combine their disclosures.

Taking the foregoing line of thought one step further, and disregarding the question of the motivation one of skill in the art might find in the references (of which the Applicants maintain there is none), the combining of Cohen and Geagan, in any permissible combination (even taking into consideration the level of skill in the art at the time of invention), fails to produce a system or method that makes obvious the claimed invention. Indeed, neither Cohen nor Geagan recognize the fact that the buffering that may be performed in their systems will suffer from the untoward effects the claimed invention addresses. This failure is evidenced by the failure of Cohen and Geagan to perform any determination of buffer status in order to control the transfer of data. At best, the addition of Geagan to Cohen provides a system in which Cohen's proxy scheme enjoys the ability to support higher-bandwidth data streams, although it remains unclear where Geagan recognizes that replacing its proxy scheme with that of Cohen is beneficial, and where Cohen recognizes a need for Geagan's approach to increased bandwidth.

Regardless of these issues, the combination of Cohen and Geagan continues to suffer from the aforementioned infirmities. The claimed invention, by contrast, makes just such a determination, in order to control the transfer of data, and so maintain the efficient communication of data, by determining need for data transfer between the second and third network elements by monitoring a plurality of data buffers.

For at least the foregoing reasons, Applicants respectfully submit that the invention, as claimed in independent claims 1, 32, 63 and 94, is not made obvious by Cohen, taken in

permissible combination with Geagan, and/or skill in the art at the time of invention. Nor do the other cited references address the issues raised by Applicants in the preceding discussion. Moreover, Applicants respectfully submit that dependent claims 2-31, 33-62, 64-93 and 95-124, which depend variously from independent claims 1, 32, 63 and 94, are not obvious for at least the foregoing reasons. Applicants therefore respectfully submit that claims 1-124 are in condition for allowance.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5084.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on **September 6, 2005**.

Attorney for Applicants — Date of Signature: 9/6/05

Respectfully submitted,

Samuel G. Campbell, III
Attorney for Applicants
Reg. No. 42,381
Telephone: (512) 439-5084
Facsimile: (512) 439-5099